Bossier Parish Community College
Master Syllabus

Course Prefix and Number: PHYS 201L   **Credit Hours:** 1

Course Title: General Physics I Laboratory

Course Prerequisites: Previous credit or current registration in PHYS 201

Textbook: College Generated Laboratory Manual

Course Description: Laboratory experiments to accompany PHYS 201

Learning Outcomes:

At the end of this course, the student will

    A. utilize equipment to perform experiments to test principles of physics and utilize sensors and measuring instruments to quantify physical quantities; and
    B. apply algebraic and trigonometric mathematical skills to generate and interpret physics data and compose laboratory reports based on the data and observations.

To achieve the learning outcomes, the student will

1. categorize the types of experimental uncertainty and error, and explain how they may be reduced. (A)
2. distinguish between mass and density and know how to determine experimentally the density of an object. (A,B)
3. distinguish between instantaneous and average velocities. (A,B)
4. demonstrate how the uniform acceleration of an object can be determined from distance and time measurements. (A,B)
5. use Newton's Second Law to measure the force exerted on an object by the Earth's gravitational field. (A,B)
6. demonstrate when linear momentum is conserved and what this means in terms of force and motion. (A,B)
7. investigate the difference in kinetic and potential energy of an object. (A,B)
8. use Archimedes' Principle to determine the densities of objects that sink or float can be determined experimentally. (A, B)
9. determine specific heat experimentally. (A,B)
10. investigate the relationship between pendulum length, pendulum mass, and the period of oscillation. (A,B)
11. complete written laboratory reports and questions. (A,B)

Course Requirements

- satisfactorily completion of a minimum of 10 laboratory experiments
- demonstrated proficiency in the use of physic sensors and/or measuring instruments
- minimum average of 70% on laboratory reports
- minimum average of 70% on tests

Course Grading Scale:

A- 90% or more of total possible points and satisfactory completion of a minimum of 10 laboratory exercises utilizing sensors and/or measuring instruments and a minimum average of 70% on laboratory reports and a minimum average of 70% on tests

B- 80% or more of total possible points and satisfactory completion of a minimum of 10 laboratory exercises utilizing sensors and/or measuring instruments and a minimum average of 70% on laboratory reports and a minimum average of 70% on tests

C- 70% or more of total possible points and satisfactory completion of a minimum of 10 laboratory exercises utilizing sensors and/or measuring instruments and a minimum average of 70% on laboratory reports and a minimum average of 70% on tests

D- 60% or more of total possible points and satisfactory completion of a minimum of 10 laboratory exercises utilizing sensors and/or measuring instruments and a minimum average of 70% on laboratory reports and a minimum average of 70% on tests

F- less than 60% of total possible points or failure to complete a minimum of 10 laboratory exercises utilizing sensors and/or measuring instruments or less than a minimum average of 70% on laboratory reports or less than a minimum average of 70% on tests

Reviewed by C. Reed / May 2009